

Notice to File a Response

Applicant's Name: Siemens AG

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Patent Appln. No.: 10-2001-7016924

Title of Invention: Electrical-mechanical connection between electronic circuit systems and substrates and method for the production thereof

We hereby inform you of the following reason(s) for rejection pursuant to Article 63 of the Korean Patent Act. The applicant, if needed, may file an argument and an amendment no later than February 10, 2004.

R E A S O N (S)

Since the invention in all the claims of the present application could have been easily conceived from the documents indicated below, which were published prior to the filing of the present application, by a person having ordinary knowledge in the art to which the present invention pertains, the present invention cannot be patented according to Article 29(2) of the Korean Patent Act.

DETAILED GROUNDS

All the claims of the present invention relate to an electrical-mechanical connection and method for the production thereof, in which "an electronic circuit system and a substrate are mechanically connected fixedly each other, the electronic circuit system and the substrate connected in an electrically conductive manner by means of microcapsules; and in which the microcapsules are comprised of granules which are at least in part electrically conductive and which are coated with a dielectric, the dielectric of the microcapsules being broken open by mechanical pressure in order to at least partially expose the electrically conductive grains, characterized by an electrically conductive soldered joint between the microcapsules and the electrically conductive elements of electronic

circuit system and substrate."

However, upon comparing the present invention with the Japanese Laid-open Patent Publication No. Hei 2-294097 (published on December 5, 1990, hereinafter referred to as "cited invention 1"), which describes the technology that "when connecting a print board to a semiconductor package, after preparing a microcapsule (7) in which an interior (7b) made of heat fusible conductive materials is surrounded by an outer cell (7a), and then disposing the microcapsule between a junction (2a) of the print board and the outer lead (4a) of the semiconductor package and applying predetermined temperature and pressure, then a crack is generated on the microcapsule and the interior is fused so that the conductive connection elements are connected each other. Accordingly, the print board and conductive package are electrically connected", their constitutions are similar in the point that the junction of the substrate and the lead of the semiconductor package are connected by using the microcapsule.

The cited invention 1 does not describes an adhesive, and the microcapsule not involved in the electrical connection, which are the constitutional elements of the present invention, but WO No. 98/14995 (published on April 9, 1998, hereinafter referred to as "cited invention 2") describes that "the bonding pad of the IC chip and that of the substrate are connected each other by anisotropic conductive adhesives (ACAs), and there exist soldered particles which are not involved in the connection (in the abstract and drawings)."

Therefore, all the claims of the present invention can be easily invented from the combination of the cited inventions 1 and 2 by one skilled in the art.

[Attachments]

1. A copy of Japanese Laid-open Patent Publication No. Hei 2-294097
2. A copy of WO No. 98/14995

Date: December 10, 2003

Examiner: W. S. SONG

Examination Bureau IV

Korean Intellectual Property Office